



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 26, 2011

Mr. David A. Heacock
President and Chief Nuclear Officer
Virginia Electric and Power Company
Innsbrook Technical Center
5000 Dominion Boulevard
Glen Allen, VA 23060-6711

SUBJECT: NORTH ANNA POWER STATION, UNIT NOS. 1 AND 2 (NAPS), AND SURRY
POWER STATION, UNIT NOS. 1 AND 2 (SURRY) - ISSUANCE OF
AMENDMENTS FOR CHANGES TO THE EMERGENCY PLAN (TAC NOS.
ME3383, ME3384, ME3385, AND ME3386)

Dear Mr. Heacock:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment Nos. 261 and 242 to Renewed Facility Operating License Nos. NPF-4 and NPF-7 for the North Anna Power Station, Unit Nos. 1 and 2 and Amendment Nos. 272 and 271 to Renewed Facility Operating License Nos. DPR-32 and DPR-37 for the Surry Power Station, Unit Nos. 1 and 2. This amendment is in response to your application dated January 29, 2010, for the proposed changes to the Emergency Plan.

The amendment provides authorization to upgrade selected Emergency Action Levels based on Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 5, dated February 2008 using the guidance of NRC Regulatory Issue Summary 2003-18, Supplement 2, "Use of Nuclear Energy Institute (NEI) 99-01, Methodology for Development of Emergency Action Levels."

D. Heacock

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A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read 'V. Sreenivas', with a long horizontal stroke extending to the right.

Dr. V. Sreenivas, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-338, 50-339,
50-280, and 50-281

Enclosures:

1. Amendment No. 261 to NPF-4
2. Amendment No. 242 to NPF-7
3. Amendment No. 272 to DPR-32
4. Amendment No. 271 to DPR-37
5. Safety Evaluation

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-338

NORTH ANNA POWER STATION, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 261
Renewed License No. NPF-4

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated January 29, 2010, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-4, as indicated in the attachment to this license amendment, and is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No.261, are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. Further, Renewed Facility Operating License No. NPF-4 is hereby amended to authorize changes to the North Anna Power Station Emergency Plan as set forth in the license amendment application dated January 29, 2010. The amendment provides authorization to upgrade selected Emergency Action Levels based on Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 5, dated February 2008 using the guidance of NRC Regulatory Issue Summary 2003-18, Supplement 1 & 2, "Use of Nuclear Energy Institute (NEI) 99-01, Methodology for Development of Emergency Action Levels."
4. This license amendment is effective as of its date of issuance and shall be implemented within 120 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Attachment:
Changes to License No. NPF-4

Date of Issuance: January 26, 2011



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-339

NORTH ANNA POWER STATION, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 242
Renewed License No. NPF-7

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated January 29, 2010, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-7, as indicated in the attachment to this license amendment, and is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No 242 are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. Further, Renewed Facility Operating License No. NPF-7 is hereby amended to authorize changes to the North Anna Power Station Emergency Plan as set forth in the license amendment application dated January 29, 2010. The amendment provides authorization to upgrade selected Emergency Action Levels based on Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 5, dated February 2008 using the guidance of NRC Regulatory Issue Summary 2003-18, Supplement 1 & 2, "Use of Nuclear Energy Institute (NEI) 99-01, Methodology for Development of Emergency Action Levels."
4. This license amendment is effective as of its date of issuance and shall be implemented within 120 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Attachment:
Changes to License No. NPF-7

Date of Issuance: January 26, 2011

ATTACHMENT

TO LICENSE AMENDMENT NO. 261

RENEWED FACILITY OPERATING LICENSE NO. NPF-4

DOCKET NO. 50-338

AND

TO LICENSE AMENDMENT NO. 242

RENEWED FACILITY OPERATING LICENSE NO. NPF-7

DOCKET NO. 50-339

Replace the following pages of the Licenses with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove Pages

Licenses

License No. NPF-4, page 3

License No. NPF-7, page 3

Insert Pages

Licenses

License No. NPF-4, page 3

License No. NPF-7, page 3

- (2) Pursuant to the Act and 10 CFR Part 70, VEPCO to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Updated Final Safety Analysis Report;
 - (3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, VEPCO to receive, possess, and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - (4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, VEPCO to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material, without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or component; and
 - (5) Pursuant to the Act and 10 CFR Parts 30 and 70, VEPCO to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

VEPCO is authorized to operate the North Anna Power Station, Unit No. 1, at reactor core power levels not in excess of 2940 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 261 are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

- (3) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, VEPCO to receive, possess, and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (4) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, VEPCO to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material, without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) Pursuant to the Act and 10 CFR Parts 30, 40, and 70, VEPCO to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations as set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

VEPCO is authorized to operate the facility at steady state reactor core power levels not in excess of 2940 megawatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 242 are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Additional Conditions

The matters specified in the following conditions shall be completed to the satisfaction of the Commission within the stated time periods following the issuance of the condition or within the operational restrictions indicated. The removal of these conditions shall be made by an amendment to the renewed license supported by a favorable evaluation by the Commission:

- a. If VEPCO plans to remove or to make significant changes in the normal operation of equipment that controls the amount of radioactivity in effluents from the North Anna Power Station, the



UNITED STATES
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WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-280

SURRY POWER STATION, UNIT NO. 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 272
Renewed License No. DPR-32

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated January 29, 2010, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - C. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to paragraph 3.B of Renewed Facility Operating License No. DPR-32, as indicated in the attachment to this license amendment, and is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No.272 are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. Further, Renewed Facility Operating License No. DPR-32 is hereby amended to authorize changes to the Surry Power Station Emergency Plan as set forth in the license amendment application dated January 29, 2010. The amendment provides authorization to upgrade selected Emergency Action Levels based on Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 5, dated February 2008 using the guidance of NRC Regulatory Issue Summary 2003-18, Supplements 1 & 2, "Use of Nuclear Energy Institute (NEI) 99-01, Methodology for Development of Emergency Action Levels."
4. This license amendment is effective as of its date of issuance and shall be implemented within 120 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Attachment:
Changes to License No. DPR-32

Date of Issuance: January 26, 2011



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

VIRGINIA ELECTRIC AND POWER COMPANY

DOCKET NO. 50-281

SURRY POWER STATION, UNIT NO. 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 271
Renewed License No. DPR-37

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Virginia Electric and Power Company et al., (the licensee) dated January 29, 2010, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - D. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to paragraph 3.B of Renewed Facility Operating License No. DPR-37, as indicated in the attachment to this license amendment, and is hereby amended to read as follows:

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 271 are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. Further, Renewed Facility Operating License No. DPR-37 is hereby amended to authorize changes to the Surry Power Station Emergency Plan as set forth in the license amendment application dated January 29, 2010. The amendment provides authorization to upgrade selected Emergency Action Levels based on Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 5, dated February 2008 using the guidance of NRC Regulatory Issue Summary 2003-18, Supplement 1 & 2, "Use of Nuclear Energy Institute (NEI) 99-01, Methodology for Development of Emergency Action Levels."
4. This license amendment is effective as of its date of issuance and shall be implemented within 120 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Attachment:
Changes to License No. DPR-37

Date of Issuance: January 26, 2011

ATTACHMENT

TO LICENSE AMENDMENT NO. 272

RENEWED FACILITY OPERATING LICENSE NO. DPR-32

DOCKET NO. 50-280

AND

TO LICENSE AMENDMENT NO. 271

RENEWED FACILITY OPERATING LICENSE NO. DPR-37

DOCKET NO. 50-281

Replace the following pages of the Licenses with the enclosed pages as indicated. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

Remove Pages

Licenses

License No. DPR-32, page 3

License No. DPR-37, page 3

Insert Pages

Licenses

License No. DPR-32, page 3

License No. DPR-37, page 3

3. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

A. Maximum Power Level

The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2546 megawatts (thermal).

B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 272 are hereby incorporated in the renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.

C. Reports

The licensee shall make certain reports in accordance with the requirements of the Technical Specifications.

D. Records

The licensee shall keep facility operating records in accordance with the requirements of the Technical Specifications.

E. Deleted by Amendment 65

F. Deleted by Amendment 71

G. Deleted by Amendment 227

H. Deleted by Amendment 227

I. Fire Protection

The licensee shall implement and maintain in effect the provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report and as approved in the SER dated September 19, 1979, (and Supplements dated May 29, 1980, October 9, 1980, December 18, 1980, February 13, 1981, December 4, 1981, April 27, 1982, November 18, 1982, January 17, 1984, February 25, 1988, and

- E. Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
3. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR Part 70; and is subject to all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:
- A. Maximum Power Level
The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2546 megawatts (thermal).
 - B. Technical Specifications
The Technical Specifications contained in Appendix A, as revised through Amendment No. 271, are hereby incorporated in this renewed license. The licensee shall operate the facility in accordance with the Technical Specifications.
 - C. Reports
The licensee shall make certain reports in accordance with the requirements of the Technical Specifications.
 - D. Records
The licensee shall keep facility operating records in accordance with the requirements of the Technical Specifications.
 - E. Deleted by Amendment 54
 - F. Deleted by Amendment 59 and Amendment 65
 - G. Deleted by Amendment 227
 - H. Deleted by Amendment 227



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 261 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-4

AMENDMENT NO. 242 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-7

AMENDMENT NO. 272 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-32

AMENDMENT NO. 271 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-37

VIRGINIA ELECTRIC AND POWER COMPANY

NORTH ANNA POWER STATION, UNIT NOS. 1 AND 2, AND

SURRY POWER STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-338, 50-339, 50-280, AND 50-281

1.0 INTRODUCTION

By application dated January 29, 2010 (Agencywide Documents Access and Management System (ADAMS), Accession No. ML100500566), Virginia Electric and Power Company (the licensee), submitted a license amendment request (LAR) to the Nuclear Regulatory Commission (NRC) for approval of changes to several emergency action levels (EALs) for North Anna Power Station (NAPS), Unit Nos. 1 and 2, and Surry Power Station (Surry), Unit Nos. 1 and 2.

The licensee requested authorization to upgrade selected Emergency Action Levels based on Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 5, dated February 2008 (ADAMS Accession No. ML080450149) using the guidance of NRC Regulatory Issue Summary (RIS) 2003-18, Supplement 1 & 2, "Use of Nuclear Energy Institute (NEI) 99-01, Methodology for Development of Emergency Action Levels" (ADAMS Accession Nos. ML032580518, ML041550395, and ML051450482). The licensee currently uses an EAL scheme based on NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels."

Specifically, the requested license amendment proposes changes to Table R-1, Gaseous Effluent Monitor Classification Thresholds for the Notice of Unusual Event (NOUE) classification (EAL RU1.2), deletes EAL RA2.4 for both NAPS and Surry, and revises the Reactor Coolant System (RCS) Letdown Thresholds for EALs SU5.2 and Fuel Clad Loss #5 for NAPS.

2.0 REGULATORY EVALUATION

2.1 Regulations

Paragraph (a)(1) to Section 50.47, "Emergency plans," of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50 states that no operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that the state of onsite and offsite emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Section 50.47 also establishes standards that must be met by the onsite and offsite emergency response plans for NRC staff to make a positive finding that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. One of these standards, 50.47(b)(4), stipulates that emergency plans include a standard emergency classification and action level scheme.

Section IV.B to Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," of 10 CFR Part 50 provides that emergency plans are to include EALs, which are to be used as criteria for determining the need for notification and participation of local and State agencies and which are to be used for determining when and what type of protective measures should be considered both onsite and offsite to protect health and safety. EALs are to be based on in-plant conditions and instrumentation, and also on onsite and offsite monitoring. Section IV.B of Appendix E provides that initial EALs shall be discussed and agreed on by the applicant and State and local authorities and be approved by NRC, and reviewed annually thereafter. In addition, Section IV.B of Appendix E states that an EAL revision must be approved by the NRC before implementation if it involves: (1) the changing from an EAL scheme based on NUREG-0654/FEMA-REP-1 to a scheme based on NUMARC/NESP-007 or NEI 99-01; (2) the licensee is proposing an alternate method for complying with the regulations; or (3) the EAL revision has been evaluated by licensee as constituting a decrease in effectiveness.

2.2 Guidance

Revision 4 to Regulatory Guide (RG) 1.101, issued in July 2003, endorses the guidance contained in NEI 99-01 "Methodology for Development of Emergency Action Levels" Revision 4, January 2003 (ADAMS Accession No. ML041470143), as acceptable to the NRC staff as an alternative method to that described in the following guidance for developing EALs required in Section IV of Appendix E to 10 CFR Part 50 and 10 CFR 50.47(b)(4):

- Appendix 1 to NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (November 1980), and
- Nuclear Utilities Management Council (NUMARC) document, entitled NESP-007, "Methodology for Development of Emergency Action Levels" (Revision 2, January 1992).

RIS 2003-18, with Supplements 1 & 2, "Use of NEI 99-01, Methodology for Development of Emergency Action Levels," (ADAMS Accession Nos. ML032580518, ML041550395, and ML051450482), provides guidance for developing or changing a standard emergency classification and action level scheme. In addition, this RIS provides recommendations to assist licensees, consistent with Section IV.B to Appendix E of Part 50, in determining whether to seek prior NRC approval of deviations from the guidance.

NEI 99-01, "Methodology for Development of Emergency Action Levels," Revision 5 (ADAMS Accession No. ML080450149) has been determined to be acceptable to the NRC via letter dated February 22, 2008 (ADAMS Accession No. ML080430535).

3.0 TECHNICAL EVALUATION

The proposed change was submitted to the NRC for a technical and regulatory review prior to implementation by the licensee, as required under 10 CFR 50.54(q).

This evaluation is based on the LAR, a Safety Evaluation Report (SER) dated February 4, 2008 (ADAMS Accession No. ML080310195) and NAPS Updated Final Safety Analysis Report (UFSAR) Chapter 11.

The licensee proposed two changes in common for NAPS and Surry. These are evaluated as Change No. 1 and 2. In addition, licensee has proposed to revise RCS Letdown Thresholds for EALs SU5.2 and Fuel Clad Loss #5 for NAPS. This is evaluated as Change No. 3.

NAPS/Surry Change #1:

The licensee's proposed changes would raise the thresholds activity levels for NOUE for NAPS at Vent Stack A, Vent Stack B and Process vent, and for Surry at Vent #2 and Process Vent. The licensee has also proposed to eliminate the threshold activity levels for NAPS at main Steam (Steam Safety) and the Auxiliary Feed Water Pump Turbine (AFWPT) Exhaust and for Surry at the Steam safety. The affected portions of Table R-1, "Gaseous Effluent Monitor Classification Thresholds" are reproduced below to show both the existing and proposed thresholds.

Release Point	Monitor	GE	SAE	Alert	NOUE (Existing)	NOUE (Proposed)
Vent Stack A	VG-RI-179-1 or 2	4.00E+08 μ Ci/sec	4.00E+07 μ Ci/sec	4.56E+06 μ Ci/sec	4.56E+04 μ Ci/sec	3.60E+05 μ Ci/sec
Vent Stack B	VG-RI-180-1 or 2	3.57E+08 μ Ci/sec	3.57E+07 μ Ci/sec	4.07E+06 μ Ci/sec	4.07E+04 μ Ci/sec	3.60E+05 μ Ci/sec
Process Vent	GW-RI-178-1 or 2	3.70E+08 μ Ci/sec	3.70E+07 μ Ci/sec	4.22E+06 μ Ci/sec	4.22E+04 μ Ci/sec	2.60E+05 μ Ci/sec
Main Steam (Steam Safety)(Note 8)	MS-RM-170 (270) MS-RM-171 (271) MS-RM-172 (272)	8.62E+02 mR/hr	8.62E+01 mR/hr	9.81E+00 mR/hr	9.81E-02 mR/hr	N/A
AFWPT Exhaust (Note 8)	MS-RM-176 (276)	2.84E+02 mR/hr	2.84E+01 mR/hr	3.24E+00 mR/hr	3.24E-01 mR/hr	N/A

Release Point	Monitor	GE	SAE	Alert	NOUE (Existing)	NOUE (Proposed)
Vent #2	1-VG-RI-131 B or C	8.00E+07 μ Ci/sec	8.00E+06 μ Ci/sec	9.12E+05 μ Ci/sec	9.12E+03 μ Ci/sec	5.67E+04 μ Ci/sec
Process Vent	1-GW-RI-130 B or C	2.74E+08 μ Ci/sec	2.74E+07 μ Ci/sec	3.12E+06 μ Ci/sec	3.12E+04 μ Ci/sec	3.68E+05 μ Ci/sec
Steam Safety (Note 7)	()MS-RM-()24, ()25, ()26	6.27E+02 mR/hr	6.27E+01 mR/hr	7.15E+00 mR/hr	7.15E-02 mR/hr	N/A
AFW Steam Exhaust (Note 7)	()MS-RM-()29	2.63E+01 mR/hr	2.63E+00 mR/hr	3.00E-01 mR/hr	N/A	N/A

The current NOUE thresholds are based on meeting 2 x Radiological Effluent Technical Specification limit (500 mrem) using expected meteorological dispersion. The proposed change would adjust that basis for these NOUE values to correspond to 2 x the allocated Offsite Dose Calculation Manual (ODCM) limit which is determined using annual average meteorological dispersion. The ODCM limit is applicable to total releases from the site at any point in time (i.e., "instantaneous release rate limit"). This limit is used to calculate the release rate (μ Ci/sec) for each release pathway which would yield 500 mrem in a year. An allocation factor is applied to each pathway to determine the allocated ODCM limit for that pathway. The allocation factor applied for

the Process Vent is 10% or 0.1, and for Vent A and Vent B is 100% or 1.0. The EAL values for the NOUE were calculated as 2 X the allocated ODCM limit for each gaseous pathway. This method follows the guidance from NEI 99-01 and provides a justifiable basis for increased NOUE thresholds based on established methods and setpoints provided in the facility ODCM.

The ODCM has no limits applicable to the steam safeties or auxiliary feedwater exhausts, therefore the NOUE classification thresholds for the steam safeties and auxiliary feedwater exhaust are being labeled N/A (not applicable). In addition, the current NOUE thresholds for the steam safeties and auxiliary feedwater exhaust are in the range of normal background radiation for these systems, and provide little value in protecting the public through early indications of escalating events.

The NRC staff finds this acceptable as the proposed increase in NOUE values for the vent stacks and the process vent will continue to classify events based on degradation in the level of safety of the plant and the new values will maintain a near linear escalation between all four classification levels (i.e., NOUE, Alert, Site Area Emergency (SAE) and General Emergency (GE)). The separation between each level is being maintained at approximately a factor of 10 or greater.

NAPS/Surry Change #2:

The licensee proposed to delete EAL RA2.4, "Valid Abnormal Radiation Readings > 2,000 mR/hr in Table R-2 Areas Requiring Infrequent Access to Maintain Plant Safety Functions, and the Associated Table R-2, Infrequent Access Areas. The licensee proposes that radiation control protocols will be implemented to control access to any area, where administrative exposure limits will be exceeded.

The NRC staff finds this acceptable as the proposed changes are based upon NRC approved developmental guidance and are bounded by EAL RU2.2, "Unplanned Valid Direct Area Radiation Monitor Reading Increase by a Factor of 1000 Over Normal Levels," and the Fission Barrier matrix criteria for EAL classification and determination. This allowed for the removal of this EAL as it is difficult to implement consistently throughout the various reactor designs licensed by the NRC, and is bounded by other indications that are more indicative of an out of control radiation exposure event.

NAPS Change #3:

Since the current EAL scheme for NAPS was approved in a SER dated February 4, 2008 (ADAMS Accession No. ML080310195), the RCS letdown monitoring system has been replaced. Because of the replacement of the letdown monitoring system, the EAL SU5.2 and Fission Barrier Matrix Criteria "Fuel Clad-Loss#5" need to be revised. The proposed revision accounts for the new system, new detector geometry, dose modeling, improved source term estimation, NAPS has proposed to change EAL SU5.2 is 2.2E+04 mR/hr to 1.5E+04 mR/hr. The proposed change to "Fuel Clad – Loss #5" is 1.1E+05 mR/hr to 7.5E+04 mR/hr.

The NRC staff reviewed the current UFSAR Chapter 11 for NAPS and proposed changes to EAL SU5.2 and Fuel Clad – Loss #5. Based on the review, the NRC staff confirmed that the requested revisions are consistent with the regulations and the new RCS letdown monitoring system implementation. Therefore the NRC staff finds this acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Virginia State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact was published in the *Federal Register* on December 8, 2010 (75 FR 76495). Accordingly, based upon the environmental assessment, the Commission has determined that issuance of this amendment will not have a significant effect on the quality of the human environment.

6.0 CONCLUSION

The NRC staff performed a technical and regulatory review of the proposed changes to the NAPS/Surry EALs. The NRC staff has determined, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the proposed emergency plan change will not be inimical to the common defense and security or to the health and safety of the public.

The NRC staff has determined that incorporation of the proposed change continues to meet the standards of Section 50.47(b) and the requirements of Appendix E to 10 CFR Part 50 and are therefore acceptable.

Principal Contributor: D. Johnson, NSIR/DPR

Date: January 26, 2011

D. Heacock

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A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Dr. V. Sreenivas, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-338, 50-339,
50-280, and 50-281

Enclosures:

1. Amendment No. 261 to NPF-4
2. Amendment No. 242 to NPF-7
3. Amendment No. 272 to DPR-32
4. Amendment No. 271 to DPR-37
5. Safety Evaluation

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